PB-215 413

# REPORT ON POLLUTION OF INTERSTATE WATERS OF THE CONNECTICUT RIVER, MASSACHUSETTS/ CONNECTICUT (SECOND SESSION)

Federal Water Pollution Control Administration
Boston, Massachusetts

September 1967

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

PB 215 413

# REPORT ON POLLUTION OF INTERSTATE WATERS OF THE CONNECTICUT RIVER MASSACHUSETTS / CONNECTICUT

(SECOND SESSION)

JOHN S. FARLOW, Sol

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. Department of Commerce
Springfield, VA 22151

**U.S. DEPARTMENT OF THE INTERIOR**

**FEDERAL WATER POLLUTION CONTROL ADMINISTRATION**

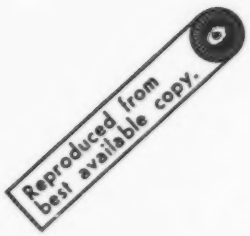
**Northeast Region**

**Boston Mass.**

**September 1967**

H

# REPORT ON
# POLLUTION OF INTERSTATE WATERS OF
# THE CONNECTICUT RIVER
# MASSACHUSETTS/CONNECTICUT
# (Second Session)




U. S. Department of the Interior
Federal Water Pollution Control Administration
Northeast Region
Boston, Massachusetts

September, 1967

# REPORT ON POLLUTION OF INTERSTATE WATERS OF THE CONNECTICUT RIVER MASSACHUSETTS/CONNECTICUT (Second Session)

## I. INTRODUCTION

On the basis of reports, surveys, or studies, the Secretary of Health, Education, and Welfare, having reason to believe that pollution of the Connecticut River and its tributaries caused by discharges of untreated and inadequately treated sewage and industrial wastes in Massachusetts was endangering the health or welfare of persons in Connecticut, a state other than that in which the discharges originate, called a conference in the matter of pollution of the interstate waters of the Connecticut River and its tributaries (Massachusetts/Connecticut). The conference was held December 2, 1963, in Hartford, Connecticut.

The Secretary of the Interior* called this second session of the conference on the Connecticut River to consider progress made in abating pollution since the first session.

## II. SUMMARY OF THE FIRST CONFERENCE

Conferees representing the state water pollution control agencies of Connecticut and Massachusetts, the New England Interstate Water Pollution Control Commission, and the U. S. Department of Health, Education, and Welfare attended the first session of the conference.

---

*Reorganization has transferred the water pollution control activities from the Department of Health, Education, and Welfare, Public Health Service, to the Department of the Interior, Federal Water Pollution Control Administration.

The conferees agreed to the following conclusions and recommendations:

1. Suspended solids from sewage and industrial waste cover the Connecticut River bottom interfering with fish spawning and the development of aquatic life.
2. Sludge deposits have damaged the esthetic quality of the river due to the visible evidences of pollution such as sludge bubbling to the surface, cloudy and gray appearances of the water in the vicinity of sewage and industrial waste discharges, intermittent colors from industrial dye wastes, small grease balls, intermittent oil films, etc.
3. Cognizance is taken of the cooperation and active programs of both States and the New England Interstate Water Pollution Control Commission in abating pollution of the Connecticut River.
4. Cognizance is further taken of the fact that the main stem of the Connecticut River in the area concerned in both States was classified in 1955.
5. Massachusetts and Connecticut have indicated that their municipal pollution abatement programs call for municipal waste treatment with adequate chlorination for all municipal wastes during the recreational season, May 1 to September 15. The Massachusetts schedule is to have pollution abatement programs completed as follows:

in 1964, Montague; in 1965, Northfield, Greenfield, Holyoke, Ware, Warren; in 1966, Hatfield, Easthampton, Chicopee, Templeton, Royalston, Athol, Orange, Erving, Monroe, Buckland, Shelburne, Hardwick, Brookfield, Palmer, Monson, Wilbraham, Chester, Huntington, Russell, Westfield. Connecticut indicated that remedial facilities would not be completed for Warehouse Point until 1967. A commensurate program for abatement of pollution caused by municipal wastes will be established by Connecticut.

6. Wastes from industries and institutions in both Massachusetts and Connecticut will be incorporated with municipal treatment facilities or will be treated by separate facilities so as to meet the classification requirements of both States. Separate industrial waste treatment facilities will be constructed and placed in operation in accordance with the time schedule established for municipalities.

7. The State conferees volunteered that yearly progress reports would be prepared by Massachusetts and Connecticut in cooperation with the interstate agency and the Department of Health, Education, and Welfare. The first progress report will be due January 1, 1965.

III. AREA

The Connecticut River is the major interstate stream of the New England States. Rising in the northern tip of New Hampshire near the Canadian border, it flows south for nearly 400 miles, joining the Atlantic Ocean in Long Island Sound. It forms the boundary between New Hampshire and Vermont and travels across Massachusetts and Connecticut.

Canals have been constructed to permit navigation and to conduct water to manufacturing plants for production of power and for use in industrial processes. Other means of transportation have largely replaced navigation, but the canals still serve as sources of power and as water supplies for industries.

The major area considered at the first and second conference sessions is the 62-mile reach from Hatfield, Massachusetts, to the Rocky Hill-South Glastonbury Ferry, twelve miles below Hartford, Connecticut. Thirty-eight miles of the reach are impounded by the Holyoke and Enfield Dams, eight miles are free flowing, and sixteen miles are subject to tidal fluctuation. Also covered are portions of two major tributaries which receive sewage and industrial wastes in Massachusetts and enter Connecticut near Springfield--the Chicopee River from Wilbraham to its mouth (12.5 miles) and the Westfield River from Westfield to its mouth (11.5 miles).

Viewed from a distance, the Connecticut is a beautiful river, flowing leisurely past wooded banks and open meadows. Its quiet impounded areas invite pleasure boating, swimming, and skiing, while its free flowing reaches are a challenge to canoeists and fishermen. However, when viewed at close range, it is not always so lovely. Locally, the Connecticut River has the reputation of being a dirty, polluted stream, not fit for human contact.

Along the three streams in Massachusetts, thirteen towns, one village, and an Air Force Base discharge sewage having an estimated population equivalent of 324,000. One population equivalent may be defined as the quantity of biochemical oxygen demand (BOD) contributed by one person in one day. Within the same area, nine paper mills, one textile mill, two metal working plants, three synthetic chemical plants, a rendering plant, and a brewery discharge wastes to the streams. Together, the industries have an estimated biochemical oxygen demand population equivalent of 120,000.

Along the main river in Connecticut are five jurisdictions discharging wastes having an estimated population equivalent of 218,000. Only one industry discharges a significant quantity of waste to the Connecticut River above the Hartford area--a paper mill with an estimated population equivalent of about 18,000.

The total oxygen demand population equivalent discharged to the reach under consideration is 542,000, of which industrial wastes account for 138,000.

As members of the New England Interstate Water Pollution Control Commission, Massachusetts and Connecticut in 1955 classified the water quality of the Connecticut River in the two States. At the time the classification was adopted, five of the towns along the Massachusetts reach of the river had partial sewage treatment. In the eight years between the adoption date and the first session of the Connecticut conference, three additional towns, with a sewered population of 55,500, provided treatment, and two of the original plants were rebuilt or replaced. Eight jurisdictions with a sewered population of 146,200 were still without treatment.

The Connecticut River was reclassified by the two States in June, 1967.

## IV. WATER USES

This 62-mile reach of the Connecticut River is used principally for industrial water supply, recreation, power production, and waste disposal.

### A. Industrial Water Supply

The Connecticut River provides such an abundance of water for industrial supply in this reach that the industries are said not to bother with records of water use. Previous attempts to assemble such data have been unsuccessful. However, the Pratt and Whitney Division, United Aircraft Corporation, at East Hartford, alone uses 720 million gallons of water per day for cooling.

B. Pleasure Boating

Pleasure boating is increasing in popularity as a water sport but has not developed on the Connecticut River as rapidly as it has throughout the rest of the nation.

C. Fishing

Between Enfield Dam and Hartford the Connecticut River supports good populations of a variety of game and coarse fishes, but for some unexplained reason, there has been only limited angling for any type of fish other than shad. A former chief of the Division of Fisheries, Connecticut Board of Fisheries and Game, puzzled by the limited use of this excellent fishery, hypothesized that: "It may be possible that many sportsmen associate the river with gross pollution and uncleanliness and feel it unlikely to consider sport fishing in such an environment--further, that fish from the river are unfit as food." The most popular recreational use is shad fishing during the spring run (late April through early June) of this anadromous fish. Fortunately, adult shad, which are intolerant of poor water quality, ascend the river when flows are high and are, thus, not subjected to the most critical effects of pollution.

D. Swimming

Only one bathing beach was found in this 62-mile reach, although swimming undoubtedly does take place throughout its length on an unorganized basis.

E. Skiing

Water skiing has not become popular as rapidly along the Connecticut River as it has on other waters, but there has been a start, and its popularity will undoubtedly increase.

F. Commercial Fishing

Commercial shad fishing is permitted in the Connecticut River in Connecticut but not in Massachusetts. During the ten-year period from 1953 through 1962, commercial fishermen netted an average of 98,200 shad yearly.

G. Navigation

Navigation on the Connecticut is limited to the tidal reach of the river below Hartford. Several oil barges make the trip from Long Island Sound to Hartford each day, and some of the coal used for thermal power production in Hartford is transported by water.

H. Hydropower

It is said that the entire flow of the Connecticut River during low flow periods is used two to three times over for power production. The principal hydropower use is at Holyoke and Windsor Locks. During periods of low flow, the entire flow of the Connecticut River, with the exception of about 200 cfs of leakage, is retained by the Holyoke Dam on Saturdays and Sundays, seriously affecting waste disposal in the Enfield impoundment.

## V. POLLUTION ABATEMENT NEEDS

Major pollution sources, municipal, industrial, and governmental, are shown in Table 1. Also given in Table 1 are: the type of waste--combined or separate sewers for municipalities, or type of product for industries; the population equivalent of BOD discharged; the treatment existing at the time of the first conference (December, 1963); the present status of compliance by the polluter with the Secretary's recommendations following the first conference; the existing treatment (September, 1967); and the treatment required under the Water Quality Standards adopted by the States of Massachusetts and Connecticut. The Massachusetts standards were approved by the Secretary of the Interior under provisions of the Federal Water Pollution Control Act. The time schedule is contained in Table 2.

Of the thirty-eight polluters listed in Table 1 (thirty-two in Massachusetts), only five are in compliance with the Secretary's recommendations following the first conference. All five are in Massachusetts. Seventeen polluters still have no waste control facilities at all. Additional or new facilities are needed by all of the polluters listed in Table 1.

TABLE 1

WATER POLLUTION CONTROL NEEDS
CONNECTICUT RIVER AND TRIBUTARIES

Hatfield, Massachusetts, to Hartford, Connecticut

| SOURCE | RECEIVING STREAM | TYPE OF WASTE | POPULATION EQUIVALENT DISCHARGED | 1ST CONFERENCE EXISTING TREATMENT | 1ST CONFERENCE COMPLIANCE W/ SECRETARY'S RECOMMENDATIONS | 2ND CONFERENCE EXISTING TREATMENT | 2ND CONFERENCE REQUIRED TREATMENT |
|---|---|---|---|---|---|---|---|
| **MASSACHUSETTS** | | | | | | | |
| Hatfield | Mill River | Combined | 1,300 | None | No | None | Secondary & Cl |
| Amherst | Connecticut River | Separate | [illegible],000 | Primary & Cl | Yes | Primary & Cl | Secondary & Cl |
| Northampton | Connecticut River | Separate | 1[illegible],700 | Primary & Cl | Yes | Primary & Cl | Secondary & Cl |
| Easthampton | Connecticut River | Separate | [illegible],600 | Primary & Cl | Yes | Primary & Cl | Secondary & Cl |
| Mt. Tom | Connecticut River | Separate | [illegible]00 | None | No | None | Secondary & Cl |
| South Hadley | Connecticut River | Combined | 4,[illegible]00 | Primary | No | Primary | Secondary & Cl |
| Texon, Inc. | Connecticut River | Paper | [illegible]30 | None | No | None | Equiv. Second. |
| Holyoke | Connecticut River | Combined | [illegible]1,000 | None | No | Partly None, Partly Primary | Secondary & Cl |
| Brown Paper Co.(2) | Connecticut River | Paper | 1[illegible],000 | None | No | None | Equiv. Second. |
| Chemical Paper Mfg. Co.(3) | Connecticut River | Paper | (3) | (3) | (3) | (3) | (3) |
| Franklin Paper Co. | Connecticut River | Paper | [illegible],[illegible]00 | None | No | None | Equiv. Second. |
| Valley Paper Co. | Connecticut River | Paper | 2,[illegible]00 | Save-Alls | No | Save-Alls | Equiv. Second. |
| Whiting & Co. | Connecticut River | Paper | [illegible],[illegible]00 | None | No | None | Equiv. Second. |
| West Springfield | Connecticut & Chicopee Rivers | Combined | 17,[illegible]00 | None | No | Partly None, Partly Primary | Secondary & Cl |
| Fremont Corp. | Westfield River | Paper | [illegible],600 | None | No | None | Equiv. Second. |
| Strathmore Paper Co. | Westfield River | Paper | [illegible],[illegible]00 | Save-Alls | No | Save-Alls | Equiv. Second. |
| Southworth Co. | Westfield River | Paper | [illegible]00 | Save-Alls | No | Save-Alls | Equiv. Second. |
| Springfield | Connecticut River | Combined | 13,[illegible]00 | Primary | No | Primary | Secondary & Cl |
| Shawinigan Resins Corp. | Chicopee River | Chemical | [illegible],[illegible]00 | None | No | None | Equiv. Second. |
| Ital Dyeing Co. | Chicopee River | Wool Dyeing | [illegible],[illegible]00 | None | No | None | Equiv. Second. |
| Monsanto Chemical Co. | Chicopee River | Chemical | 10,600 | Phenol Recovery | No | Phenol Recovery | Equiv. Second. |
| Agawam | Connecticut River | Separate | 10,[illegible]00 | Primary | Yes | Primary | Secondary & Cl |
| Longmeadow | Connecticut River | Separate | [illegible],[illegible]00 | Primary | No | Primary | Secondary & Cl |
| Chicopee | Chicopee River | Combined | [illegible],600 | None | No | None | Secondary & Cl |
| Westover Air Force Base | Chicopee River | Separate | [illegible],[illegible]00 | Primary | No | Primary | Secondary & Cl |
| Springfield Rendering Co. | Connecticut River | Rendering | 6,[illegible]00 | Flotation | No | Flotation | Equiv. Second. |
| Hampden-Harvard Breweries | Connecticut River | Brewery | 2,[illegible]00 | None | No | None | Equiv. Second. |
| U. S. Rubber Co. | Chicopee River | Synthetic Rubber | [illegible],[illegible]00 | None | No | None | Equiv. Second. |
| Westfield | Westfield River | Combined | 16,[illegible]00 | None | No | None | Secondary & Cl |
| Foster Machine Co. | Westfield River | Machining | -- | None | No | None | Equiv. Second. |
| Stevens Paper Mills, Inc. | Little River | Paper | [illegible],000 | None | No | Save-Alls | Equiv. Second. |
| Columbia Mfg. Co., Inc.(4) | Little River | Metal Plating | -- | None | No | None | Equiv. Second. |
| E. Longmeadow | Pecousic River | Separate | [illegible],[illegible]00 | Secondary & Cl (Inadequate) | Yes | Secondary & Cl (Inadequate) | Secondary & Cl |
| **CONNECTICUT** | | | | | | | |
| Enfield | | | | | | | |
| Thompsonville | Connecticut River | Separate-Combined | [illegible],000 | Primary | No | Primary | Secondary & Cl |
| E. Windsor | | | | | | | |
| Warehouse Point | Connecticut River | Separate | [illegible],[illegible]00 | None | No | None | Secondary & Cl |
| Windsor Locks | Connecticut River | Separate | 7,[illegible]00 | Primary | No | Primary | Secondary & Cl |
| C.H. Dexter & Sons, Inc. | Connecticut River | Paper | [illegible],[illegible]00 | None | No | None | Equiv. Second. |
| Hartford | Connecticut River | Combined | 177,[illegible]00 | Primary | No | Primary | Secondary & Cl |
| E. Hartford | Connecticut River | Separate | [illegible],000 | Primary | No | Primary | Secondary & Cl |

1. [illegible] Population Equivalent.
2. Took over American Writing Paper Corporation.
3. Went out of business in 1966.
4. Formerly the Westfield Manufacturing Company.
5. Includes municipal waste from Bloomfield, Newington, West Hartford, Wethersfield and Windsor and industrial wastes.

Reproduced from best available copy.

TABLE 2

COMPLIANCE DATES CONTAINED IN THE MASSACHUSETTS STANDARDS

| SOURCE | DATES | | | | | |
|---|---|---|---|---|---|---|
| | Preliminary Report & Plans | Appropriation of Funds | Acquisition of Site | Complete Final Plans | Start of Construction | Completion of Construction |
| Hatfield | Completed | 9/67 | 10/67 | 4/68 | 6/68 | 6/69 |
| Amherst | 1/72 | 3/72 | | 1/73 | 3/73 | 3/74 |
| Northampton | 1/72 | 3/72 | | 1/73 | 3/73 | 3/74 |
| Easthampton | Completed | 6/67 | Own | 4/68 | 6/68 | 9/69 |
| Mt. Tom | Completed | 6/67 | | 4/68 | 6/68 | 9/69 |
| South Hadley | 1/72 | 3/72 | | 1/73 | 3/73 | 3/74 |
| Texon, Inc. | 11/69 | | | 12/70 | 3/71 | 3/72 |
| Holyoke--Project #1 | Completed | 9/67 | Own | 5/68 | 7/68 | 7/69 |
| --Project #2 | Completed | 5/69 | | 3/70 | 5/70 | 5/71 |
| Brown Paper Co. | 7/69 | | | 3/70 | 5/70 | 5/71 |
| Franklin Paper Co. | 7/69 | | | 3/70 | 5/70 | 5/71 |
| Valley Paper Co. | 7/69 | | | 3/70 | 5/70 | 5/71 |
| Whiting & Co. | 7/69 | | | 3/70 | 5/70 | 5/71 |
| West Springfield--Project #1 | Completed | | | 12/67 | 3/68 | 12/68 |
| --Project #2 | | | | 1/73 | 3/73 | 12/74 |
| Premoid Corp. | Completed | | | 12/67 | 3/68 | 12/68 |
| Strathmore Paper Co. | Completed | | | 12/67 | 3/68 | 12/68 |
| Southworth Co. | Completed | | | 12/67 | 3/68 | 12/68 |
| Springfield--Main Plant | 1/72 | 3/72 | 4/72 | 1/73 | 3/73 | 12/74 |
| --Indian Orchard Plant | 9/69 | 12/69 | Own | 3/71 | 5/71 | 5/72 |
| Shawinigan Resins Corp. | 11/69 | | | 12/70 | 3/71 | 3/72 |
| Thal Dyeing Co. | 11/69 | | | 12/70 | 3/71 | 3/72 |
| Monsanto Chemical Co. | 11/69 | | | 12/70 | 3/71 | 3/72 |
| Agawam | 1/72 | 3/72 | 4/72 | 1/73 | 3/73 | 6/74 |
| Longmeadow | 1/72 | 3/72 | 4/72 | 1/73 | 3/73 | 6/74 |

Table 2 (Continued)

| SOURCE | DATES | | | | | |
|---|---|---|---|---|---|---|
| | Preliminary Report & Plans | Appropriation of Funds | Acquisition of Site | Complete Final Plans | Start of Construction | Completion of Construction |
| Chicopee--Project #1 | | | | | 6/67 | 1/69 |
| --Project #2 | | | | 1/68 | 3/68 | 1/69 |
| --Project #3 | 7/68 | | | 7/69 | 9/69 | 12/70 |
| Westover Air Force Base | | | | | 3/68 | 1/69 |
| Springfield Rendering Co. | 1/69 | | | 9/69 | 11/69 | 12/70 |
| Hampden-Harvard Breweries | 1/69 | | | 9/69 | 11/69 | 12/70 |
| U. S. Rubber Co. | 1/69 | | | 9/69 | 11/69 | 12/70 |
| Westfield | | 9/67 | 10/69 | 5/68 | 7/68 | 7/70 |
| Foster Machine Co. | 9/67 | | | 5/68 | 7/68 | 7/70 |
| Stevens Paper Mills, Inc. | 9/67 | | | 5/68 | 7/68 | 7/70 |
| Columbia Mfg. Co., Inc. | 9/67 | | | 5/68 | 7/68 | 7/70 |
| East Longmeadow | 1/72 | 3/72 | 4/72 | 1/73 | 3/73 | 6/74 |